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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,287	10/23/2003	David Akopian	915-007.52	7135

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EXAMINER	
WILLIAMS, LAWRENCE B	
ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,287	AKOPIAN, DAVID	
	Examiner	Art Unit	
	Lawrence B. Williams	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 appears to be a method claim, but it is reality seeking patent protection for a judicial exception to 35 U.S.C. 101, i.e., mathematical algorithm. The invention as disclosed in claim 1, is merely functional description language of the mathematical algorithm as shown in the algorithms presented in claims 5-7. The invention as claimed in claim 1 is not directed to a judicial exception because the invention as claimed does require any physical transformation and the invention as claimed does not produce a useful, concrete and tangible result.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-22 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with functional or operational language. The structure which goes to make up the device/method must be clearly and positively specified.

The structure must be organized and correlated in such a manner as to present a complete operative device/method. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4, 8-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierly et al. (US Patent 6,421,372 B1) in view of Levison et al. (US Patent 6,366,938 B1).

(1) With regard to claim 1, Bierly et al. discloses a sequential-acquisition, multi-band, multi-channel, matched filter discloses a method for determining a correlation phase between a signal received at a receiver and an available replica sequence by using a matched filter checking various correlation phases, said matched filter multiplying samples of said received signal with samples of said replica sequence and summing the resulting products to obtain a correlation

value for a specific correlation phase (col. 1, lines 25-41; col. 6, lines 3-18; multiplying and summing are inherent features of the matched filter), which samples of said received signal and which samples of said available replica sequence are shifted relative to each other for each correlation phase which is to be checked (col. 6, lines 28-42).

Bierly et al dose not teach wherein results obtained in the calculations for one correlation phase are used by said matched filter for calculations for a subsequent correlation phase.

However, Levison et al. discloses a method for determining a correlation phase between a signal received at a receiver and an available replica sequence by using a matched filter (col. 6, lines 17-24), wherein results obtained in the calculations for one correlation phase are used by said matched filter for calculations for a subsequent correlation phase (col. 8, lines 36-64).

It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Levison et al as a method of reducing power consumption (col. 1, lines 20-25).

(2) With regard to claim 2, Bierly et al. also discloses the method according to claim 1, wherein said matched filter multiplies said samples of said received signal element wise with samples of said replica sequence (col. 6, lines 19-22).

(3) With regard to claims 3 and 4, though Levison et al. does not explicitly use the phrase "binary sequence", he teaches that the received signal sample values could be real values (col. 5, lines 23-25). It is well known in the art that BPSK, used in the CDMA environment is a real value modulation scheme in which the data is either +1 or –1. Thus the teaching of the signal samples could be real values would encompass applicant's, the received signal comprising a binary sequence and possible values of the binary sequence are +1 and –1.

It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Levison et al as a method of reducing power consumption (col. 1, lines 20-25).

(4) With regard to claim 8, Bierly et al. also discloses the method of claim 1, further comprising a subsequent coherent and/or non coherent processing for handling signals of low strength (col. 6, lines 40-42).

(5) With regard to claim 9, Bierly et al. also discloses wherein said received signal is a code modulated signal (col. 2, lines 53-60), and wherein said replica sequence is a replica code sequence (abstract).

(6) With regard to claim 10, Bierly et al. also discloses wherein said code modulation of said received signal is a Code Division Multiple Access (CDMA) spread spectrum signal (col. 2, lines 53-60).

(7) With regard to claim 11, Bierly et al. also discloses use of a method according to claim 1 in a process for acquisition and/or tracking of signals received at a receiver (col. 2, lines 18-24).

(8) With regard to claim 12, claim 12 discloses a receiver comprising receiving means for receiving signals; and processing means. As noted above, the combination of Bierly et al and Levison et al. disclose all limitations of claim 1. The receiver and processing means would be inherent features.

(9) With regard to claim 13, Bierly et al. also discloses the receiver according to claim 12, wherein the receiver is a receiver of a global positioning system (col. 10, line 64- col. 11, line 16).

(10) With regards to claims 14-15, Levison et al. also discloses an electronic device comprising a receiver according to claim 12. In view of Levison et al.'s background of the invention (col. 1, lines 28-49) and field of invention (col. 1, lines 20-25), it is inherent that the receiver would be for an electronic device, such as a cordless telephone/mobile terminal capable of communicating with a communication network.

It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Levison et al as a method of reducing power consumption (col. 1, lines 20-25).

(11) With regard to claim 16, as noted above, the combination of Bierly et al. and Levison et al. disclose all limitations of claim 1 with the processing means being inherent. Furthermore, Bierly et al. discloses a device comprising means for receiving from a receiver information on signals received by said receiver. Furthermore, Bierly et al. teaches the invention relating to wireless communication receivers inherently includes devices such as mobile terminals, etc. and the implementation of the invention as a GPS receiver. It is well known in the art that a GPS receiver must have a prior knowledge (information) of bit sequences before performing acquisition. Thus a device comprising means for receiving from a receiver information on signals received by the receiver would be an inherent feature.

(12) With regard to claim 17, as noted above, Bierly et al. teaches the invention relating to wireless communication receivers inherently includes devices such as mobile terminals, etc. and the implementation of the invention as a GPS receiver. The implementation of a GPS receiver itself would inherently imply that the receiver is network element.

(13) With regard to claim 18, claim 18 discloses limitations similar to those disclosed in claim 16. Therefore a similar rejection applies.

(14) With regard to claim 19, Bierly et al. discloses the receiver implemented as a GPS receiver (col. 10, line 64-col. 11, line 16). It is well known to those of ordinary skill in the art that in a GPS system a device provides navigational information as assistance to the receiver to be used for tracking. Thus a device for providing assistance data to the receiver would be an inherent feature of the system.

(15) With regard to claim 20, claim 20 discloses limitations similar to those disclosed in claim 17. Therefore a similar rejection applies.

(16) With regards to claims 21-22, Bierly et al. also discloses wherein said system is a positioning system (col. 10, line 64-col. 11, line 16).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Akopian discloses in US 2002/0110184 A1 System, Apparatus and Method for Fine Acquisition of a Spread Spectrum Signal.

b.) Akopian discloses in US 2003/0108126 A1 Method and Apparatus for Acquiring a Ranging of a Positioning System.

c.) Akopian discloses in US 2004/0196894 A1 Determining the Correlation Between Received Samples and Available Replica Samples.

d.) Akopian discloses in US 2004/0196895 A1 Determining the Correlation Between Received Samples and Available Replica Samples.

e.) Krasner et al. discloses in US 2005/0163201 A1 Rapid Acquisition Methods Apparatus For GPS Signals.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams
lbw
March 31, 2007

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER